

ATLANTIC

Environmental Consulting Services, L.L.C.

20 Cottonwood Lane
Warren, NJ 07059
(908) 755-2240
Fax (908) 755-2263

221 Pitman Avenue
Pitman, NJ 08071
(856) 218-8983
Fax (856) 218-7272

*HAND DELIVERED
DECEMBER 21, 2001*

December 21, 2001

Mr. Robert Fritz
PADEP
Lee Park, Suite 6010
555 North Lane
Conshohocken, Pennsylvania 19428

DEP-RECEIVED
SOUTHEAST REGION

Re: Final Report and Site Management Plan
Penn Steel Area; Kimberly-Clark
Front and Avenue of the States; Chester, Pennsylvania

DEC 21 2001

Dear Mr. Fritz:

At the request of Kimberly-Clark, Atlantic Environmental Consulting Services, L.L.C. (Atlantic) is submitting for your review and comment the enclosed Final Report and the Site Management Plan, respectively, for the Penn Steel Area of Kimberly-Clark's Chester, Pennsylvania facility. The Final Report documents the soil and groundwater investigation and remediation completed in the Penn Steel Area over the past 15 years and provides the data demonstrating attainment of the Act 2 Used Aquifer Medium Specific Concentrations for Groundwater in the Point of Compliance monitoring wells. The Site Management Plan was prepared for use in conjunction with the asphalt parking lot capping the Penn Steel Area (engineering control) in order to eliminate the potential for exposure to soil in the Penn Steel Area. Together, these documents support Kimberly-Clark's request for No Further Action in the Penn Steel Area.

If you have any questions regarding the report, please telephone me at 856-218-8983 or Mr. Gary Baker of Kimberly-Clark at 610-499-6355.

Respectfully,



Stan H. Carpenter, P.G.
Senior Hydrogeologist

cc: Mr. Gary Baker – Kimberly-Clark
Dr. Thomas Hundt – Atlantic

CONTENTS

1.0 INTRODUCTION.....	1
1.1 Purpose and Scope.....	1
1.2 Organization of the Report	1
2.0 SITE BACKGROUND	3
2.1 Site Description and Surrounding Land Use	3
2.2 Site Development and Use History	4
3.0 RESULTS OF INVESTIGATION	5
3.1 Groundwater Sample Results.....	6
3.2 Soil Sample Results.....	6
4.0 ENGINEERING AND INSTITUTIONAL CONTROLS	8
4.1 Engineering Controls.....	8
4.2 Institutional Controls.....	8
5.0 SITE MANAGEMENT PROCEDURES.....	11
5.1 Notification, Chain-of-Command, and Site Control	11
5.2 Fence and Cap Inspection and Repair	11
5.2.1 Perimeter Fence Inspection and Repair.....	11
5.2.2 Asphalt Parking Lot/Cap Inspection and Repair.....	12
5.2.3 Shoreline and Monitoring Well Inspection	13
5.3 Procedures for Subsurface Excavation/Disturbance	13
5.3.1 Pre-Characterization Sampling.....	14
5.3.2 Air Monitoring and Dust Suppression	15
5.3.3 Personnel Protective Equipment, Work Zones, and Worker Awareness	15
5.3.4 Handling of Soil to be Reused As Backfill	16
5.3.5 Handling of Soil for Off-Site Treatment/Disposal.....	16
5.3.6 Dewatering Activities.....	17
5.4 Restoration of Disturbed Areas.....	17
5.5 Recordkeeping.....	17
5.6 Duration of Site Management Procedures.....	18

FIGURES

1. Site Location Map
2. Site Map

1.0 INTRODUCTION

1.1 Purpose and Scope

Kimberly-Clark retained Atlantic Environmental Consulting Services, L.L.C. (Atlantic) to prepare this Site Management Plan (SMP) for the Penn Steel Area of Kimberly-Clark's Chester, Pennsylvania facility. A site location map is presented in Figure 1. A detailed summary of the site background, methods and results of historical soil and groundwater investigations, and the applicability of using engineering and institutional controls to eliminate exposure pathways to soil in the Penn Steel Area is provided in the *Final Report, Penn Steel Area* (Final Report)(Atlantic, 2001).

This SMP will be maintained in Kimberly-Clark files as one of several institutional controls to be employed in combination with the engineering controls (asphalt cap and perimeter fence) that will eliminate and/or allow for the future management of exposure pathways to soil during Kimberly-Clark's ongoing stewardship of the Penn Steel Area. This SMP outlines the inspections to be completed to ensure the continued integrity of the engineering controls. In addition, this SMP details the monitoring and pre-disturbance sampling to be implemented in order to ascertain that Kimberly-Clark employees or subcontractors are not inadvertently exposed to soil or groundwater. Isolated pockets of soil or groundwater may potentially contain residual metals and/or organic compounds that may be exposed during soil excavation or intrusive activities completed in conjunction with future maintenance or construction activities in the Penn Steel Area.

1.2 Organization of the Report

This report is divided into five chapters. Chapter 1 is the Introduction. Chapter 2 provides a brief summary of the site background, including a site description and the Penn Steel Area development and use history. Chapter 3 presents the results of soil and groundwater investigations. The current engineering and institutional controls employed by Kimberly-Clark to eliminate the exposure pathways to soil and groundwater in the Penn Steel Area are

outlined in Chapter 4. Future site management procedures to be implemented in order to eliminate and/or manage soil and groundwater exposure pathways are outlined in Chapter 5.

2.0 SITE BACKGROUND

2.1 Site Description and Surrounding Land Use

Kimberly-Clark operates a non-integrated paper mill at Front and Avenue of the States in Chester, Delaware County, Pennsylvania. The property is situated between the recently upgraded portion of State Highway Route 291 and the Delaware River, just east of Front Street. The mill manufactures sanitary paper products (consumer products) including, paper towels, toilet tissue, facial tissue and napkins. The approximately 14-acre Penn Steel Area is located southwest of, and is separated from, the main facility by the Chester Creek.

As shown on Figure 2, the Penn Steel Area is bounded by Chester Creek on the east, the Delaware River to the south, freight line railroad tracks and Front Street to the north, and industrial property on the west. The majority of the flat-lying surface in the Penn Steel Area is capped with an asphalt parking area. The remaining areas are covered with buildings, coal handling or sorting structures, or trap rock. In addition, tractor trailers are staged across the vast majority of the site and further limit access to the subsurface. The perimeter of the Penn Steel Area is surrounded by a chain link, razor wire-topped fence. A fringe buffer zone of small trees and overgrowth lies between the fenced portion of the Penn Steel Area and Chester Creek and the Delaware River.

The site is located in a heavily industrialized area designated as an Enterprise Zone by the City of Chester Planning Commission. The property located along the Chester waterfront is zoned for heavy industrial use (M-3). Based on information provided by the City of Chester Planning Department (Payne, 2001), the designation of the Chester waterfront area as an Enterprise Zone and the millions in dollars of recent upgrades to State Highway 291 were focused toward revitalizing and maintaining the area as an industrial base. As described in Section 2.2, the site has been used for industrial purposes for over 100 years and will continue to be used for industrial operations for the foreseeable future.

2.2 Site Development and Use History

As detailed in the Final Report, the Penn Steel Area of Kimberly-Clark's Chester, Pennsylvania facility has been used for commercial or industrial purposes for over 100 years. In the early 1890's, the main foundry of the Penn Steel Casting and Machine Company was constructed on and covered essentially the entire western portion of the site, between Penn and Concord Streets and Front Street and the Delaware River, respectively. The Penn Steel Casting and Machine Company (Penn Steel) vacated the approximately 14-acre site in the 1960's.

In 1971, Kimberly-Clark (formerly Scott Paper) acquired the parcel of land and voluntarily undertook what was, in effect, a Brownfields initiative in order to return this once abandoned industrial property into a functioning portion of its Chester facility. In the 1970's, Kimberly-Clark developed the site as the paved parking area that remains in use to date. The City of Chester also took ownership of the eastern parcel of the Penn Steel Area, adjacent to the Chester Creek, in 1971. Construction of the existing coal storage and handling yard used to support the co-generation facility (located across Chester Creek from the Penn Steel Area) was initiated in the mid-1980's.

Currently, the western portion of the Penn Steel Area is used as a paved parking area for tractor trailers that store the above-referenced finished goods prior to off-site shipment. The eastern side of the Penn Steel Area is used for coal storage and handling operations that support the co-generation plant located on the opposite side of Chester Creek. Conveyors that extend high above Chester Creek link the coal yard and the co-generation plant. Kimberly-Clark leases the eastern portion of the Penn Steel Area from the City of Chester and maintains the option to purchase the property or extend the lease through 2085.

3.0 RESULTS OF INVESTIGATION

In 1985, during construction of the planned coal storage yard structures, residual separate-phase product was encountered in the subsurface within the footprint of the former Penn Steel foundry operations. Given that Kimberly-Clark has no institutional knowledge of releases of petroleum substances or hazardous materials in the Penn Steel Area during its tenure of operation and use of the Penn Steel Area for tractor trailer storage, the residual separate-phase product was presumably released to the environment prior to Kimberly-Clark's ownership and operation of the property in 1971. Possible sources of the residual petroleum constituents in the Penn Steel Area are discussed in the Final Report.

In response to the detection of residual separate-phase product in the subsurface, Kimberly-Clark voluntarily initiated environmental activities in the Penn Steel Area in cooperation with the Pennsylvania Department of Environmental Protection (PADEP) and in accordance with the prevailing PADEP regulations and guidance. Since 1985, the Penn Steel Area has been extensively investigated in order to characterize the nature and vertical and horizontal extent of historical impacts at the site. Between 1985 and 2001, Kimberly-Clark has completed the following:

- The excavation and field screening of 28 test pits;
- The installation of 26 soil borings;
- The installation of 17 temporary monitoring points or piezometers to evaluate the residual separate-phase product distribution;
- The installation (and various replacement) of 15 monitoring wells;
- Laboratory analysis of soil and groundwater samples in direct contact with the residual separate-phase product in order to quantify the "worst case" concentrations in the subsurface;
- The collection and analyses of over 100 groundwater samples over the course of 14 separate groundwater sampling events;

- The completion of a tidal study to evaluate the potential influence of tidal variations in the Delaware River on site water levels and the potential for a residual product “smear zone” in soil; and
- The completion of slug tests to characterize the site-specific hydraulic conductivity.

3.1 Groundwater Sample Results

As detailed in the Final Report, the extensive volume of data developed through these numerous activities has provided the temporal data (over a 16-year period), the spatial data (across the entire site), and seasonal data (over eight successive quarters) needed to demonstrate attainment of the Act 2 Used Aquifer medium-specific concentrations (MSCs) from groundwater at the downgradient point of compliance (POC) monitoring wells.

Although compliance with the Used Aquifer MSCs has been demonstrated, it is worth noting that the City of Chester Water Authority draws its water from surface water sources located in the Susquehanna River Basin, approximately 20 miles away, and it has no future plans for using groundwater drawn from the City of Chester area. Moreover, groundwater near the site is not used for municipal, domestic, or agricultural purposes, nor is the site known to fall within a Zone 2 Wellhead Protection Area. As such, groundwater at the site appears to meet the criteria to qualify as a Non-Use Aquifer as described in 25 Pa. Code 250.303.

3.2 Soil Sample Results

As summarized in the Final Report, two soil samples were collected from known residual product areas (i.e., soil in direct contact with and containing residual product) in order to focus on potential “worst case” soil concentrations. The concentrations of polynuclear aromatic hydrocarbons (PAHs) in direct contact with product-containing soil samples were two orders of magnitude less than the direct contact and the soil-to-groundwater numeric values for a non-residential property.

In addition to meeting the Act 2 MSCs in the two specific "worst case" soil samples, a more general, site-wide *ad hoc* equivalency demonstration (25 Pa. 250.308) was completed for soil-to-groundwater constituent partitioning in the Penn Steel Area. The Act 2 guidance specifies that the equivalency demonstration shall establish the regulated substances in soil will not migrate to groundwater within 30 years at concentrations exceeding the groundwater MSC. Given that the release of the residual product occurred over 30 years ago, real-time empirical data may be considered in lieu of, and is more applicable than, a fate and transport analyses. Consistent with the Act 2 guidance, eight successive rounds of groundwater samples were collected from site monitoring wells. The groundwater data demonstrates that there are no statistical exceedances of groundwater MSCs (e.g., 75%/10x rule) in the downgradient POC monitoring wells and that there is a decreasing trend in the PAH concentrations for monitoring wells MW-8 and MW-10, which are constructed in soil containing residual product.

In summary, concentrations of residual petroleum constituents in soil samples collected in direct contact with residual product meet Act 2 standards. Furthermore, groundwater data indicates that residual product in soil and/or concentrations of residual petroleum constituents in site soil are not contributing to exceedances of groundwater MSCs. Nonetheless, Kimberly-Clark requested that Atlantic prepare this SMP as a conservative measure to outline the soil and groundwater management procedures for portions of the Penn Steel Area where specific laboratory data for soil and groundwater have not been developed.

4.0 ENGINEERING AND INSTITUTIONAL CONTROLS

4.1 Engineering Controls

Kimberly-Clark has eliminated the exposure pathway to soil by construction of an extensive asphalt parking area that effectively serves as a cap (engineering control) over the footprint of former Penn Steel operations. As discussed in Chapter 2 herein and detailed in the Final Report, the majority of the flat-lying surface in the Penn Steel Area has been capped with an asphalt parking lot for approximately 30 years. The parking lot is an integral feature of the current and projected use of the Penn Steel Area as a storage area for finished goods and, therefore, is currently maintained on an as-needed basis. The remaining areas are covered with buildings (and foundations), coal handling or sorting structures, or trap rock. Furthermore, the perimeter of the Penn Steel Area is secured by a privacy-screened, chain link fence topped by razor wire.

In addition to the asphalt parking lot/cap and perimeter fence, access to the Penn Steel Area (and subsurface) is further physically constrained on two sides by the bulkhead and shorelines of Chester Creek and the Delaware River. PADEP and/or Army Corps of Engineers permits are required to disturb the shorelines along these waterways. The immediately adjacent property on a third side of the Penn Steel Area is covered by ballast and trap rock bounding a commercial railroad freight line, on which pedestrian traffic or trespass is prohibited. In combination with a 24-hour security guard service stationed at the Penn Steel Area gatehouse, these engineering controls and physical constraints should eliminate the potential exposure pathway to soil in the Penn Steel Area.

4.2 Institutional Controls

In addition to this SMP, several other institutional controls and/or measures are currently in place to limit/manage the potential for exposure to soil in the subsurface of the Penn Steel Area, including the following measures described below.

City of Chester Zoning Restrictions - On a general basis, the Penn Steel Area is located in a heavily industrialized area designated as an Enterprise Zone by the City of Chester Planning Commission. The property located along the Chester waterfront is zoned for heavy industrial use (M-3). Based on information provided by the City of Chester Planning Department (Payne, 2001), the designation of the Chester waterfront area as an Enterprise Zone and the millions in dollars of recent upgrades to State Highway 291 were focused toward revitalizing and maintaining the area as an industrial base to support employment opportunities and the local tax base. As such, residential exposure pathway scenarios do not currently apply to the Penn Steel Area, nor are they likely to apply in the foreseeable future.

Lease Agreements with the City of Chester – Kimberly-Clark entered into a 100-year lease agreement (with and option to buy) for the eastern portion of the Penn Steel Area with the City of Chester in 1985. Over the past 15 years Kimberly-Clark has invested millions of dollars into development of the co-generation plant and related coal handling facility, portions of which are located on the City of Chester lease holding. The Penn Steel Area has been used for industrial purposes for over 100 years and will continue to be used for industrial operations for the foreseeable future.

Operation and Use Procedures – Kimberly-Clark's current operational protocols in the Penn Steel Area limit access to employees, truck drivers and contractors. Pedestrian foot traffic on the capped area is kept to a minimum in the Penn Steel Area, as most of the personnel in the area are contained in closed compartments while driving/parking tractor trailers containing finished goods from the mill or operating dump trucks and heavy equipment associated with the coal handling activities.

Deed Notice – Kimberly-Clark will consider executing a Deed Notice based on future ownership and use options, as appropriate. Should the current use or operating procedures in the Penn Steel Area change, the need to execute and file a Deed Notice will be evaluated based on a prospective property sale trigger, planned use change, the prevailing regulatory guidance, and/or existing subsurface conditions at the time of operation change. Given the ongoing nature and consistency of the operations in the

Penn Steel Area over the past 30 years, Kimberly-Clark maintains that a Deed Notice is not currently warranted.

5.0 SITE MANAGEMENT PROCEDURES

5.1 Notification, Chain-of-Command, and Site Control

An internal announcement should be circulated to the all departments within the Kimberly-Clark Chester, Pennsylvania facility that might potentially be responsible for the management of subsurface activities in the Penn Steel Area (i.e., Engineering, Maintenance, etc.). The announcement will specify that no subsurface intrusive activities will be completed within the Penn Steel Area without prior notification to the Environmental Department. In addition, the announcement will be posted within the Penn Steel Area guardhouse so that the guards may alert the Environmental Department to movement of excavation equipment (e.g., backhoes, trackhoes, etc.) into the Penn Steel Area. This notification process will be put in place to allow for the Environmental Department to control and monitor subsurface activities in the Penn Steel Area and ensure that the proper chain-of-command and procedures are observed.

5.2 Fence and Cap Inspection and Repair

5.2.1 Perimeter Fence Inspection and Repair

Given that finished goods are stored on site in the tractor trailers, the security guard service should routinely inspect the perimeter fence to ensure that holes/breaches in the fence are not present and that third party trespassers can not readily gain access to the site. If damaged, the appropriate departments should be notified to ensure that the fence is immediately repaired.

Should the need to replace or install fence posts be necessary, care will be taken when excavating the post holes to wear gloves and not contact the excavated soil. If staining of the soil is observed or odors are noticed, the Environmental Department should be contacted to further evaluate the proper soil handling procedures. Given that the fence lies along the perimeter of the site, where former operations are not known to have occurred, and that small volumes of soil (i.e., deminimis volumes) are excavated with hand tools during setting of standard-diameter galvanized fence posts, it is not anticipated that pre-excavation

sampling will be required. Soil should be returned to the hole from which it was excavated and the excavation tool (shovel, power auger, etc.) should be cleaned prior to moving to another location.

5.2.2 Asphalt Parking Lot/Cap Inspection and Repair

Given that the asphalt parking area is an integral feature of the finished goods storage, retrieval, and shipment process, the parking lot is, in effect, inspected on a daily basis. Dozens of tractor trailers are parked and removed from parking slots throughout the Penn Steel Area each day. Proper maintenance of the parking surface is critical to level storage and efficient movement of the trailers. Large cracks or holes in the asphalt surface should be noted by the truck drivers to the on duty guard, as appropriate.

In addition, the ability to efficiently park and remove the trailers during inclement weather is also necessary to the Penn Steel operations. As such, Kimberly-Clark operates a snow removal system. In order to avoid damage to the snow removal equipment and prevent inadvertent removal of the asphalt surface by the blades on the plows, the snow removal crews should also inspect the asphalt surface. The net result of this practical examination process by the truck drivers and snow removal crew is that the asphalt cap will be inspected and maintained on an as-needed basis. Damage to the asphalt surface should be reported to the guard on duty. In turn, the guard will report to the Environmental Department.

To further supplement the asphalt inspection process, Kimberly-Clark's Environmental Department will specifically inspect the asphalt parking area and adjacent gravel- and coal pile-capped areas on a semi-annual basis to ensure that subsurface soils are not exposed through unauthorized excavation, asphalt degradation, soil erosion, or other means.

If cracks are observed or noted, repairs to the asphalt parking lot should be completed by rolling additional macadam on top of the existing surfaces, if feasible. When completing repairs to the asphalt parking lot/cap, care will be taken not to expose nor excavate the underlying soil without observing the procedures outlined in Section 5.3 below.

5.2.3 Shoreline and Monitoring Well Inspection

Investigation activities have been ongoing in the Penn Steel Area for over 15 years. The POC monitoring wells and the shoreline have been inspected and monitored throughout this time period. During the eight successive quarters of POC well monitoring between September 1999 and May 2001 (see Final Report), no product seeps were observed along the shoreline nor was a measurable thickness of residual product detected in the POC monitoring wells. Based on these data, and given that the residual separate-phase product presumably was released over 30 years ago, Kimberly-Clark believes that ongoing shoreline inspection and POC monitoring well gauging is not warranted as a component of the future site management procedures.

5.3 Procedures for Subsurface Excavation/Disturbance

This section of the SMP is not intended to substitute for a site-specific Health and Safety Plan. A task-specific Construction Health and Safety Plan should be prepared for each field activity, as appropriate. This section is presented as an overview of the general procedures that should be undertaken to eliminate/limit exposure to residual contaminants in the subsurface of the Penn Steel Area during future on-site activities. Kimberly-Clark internal procedures and Occupational Safety and Health (OSHA) guidelines should be observed and implemented when working around heavy equipment, open excavations, using welding equipment, or operating power tools, etc. Specific worker health and safety procedures should be developed based on the actual work to be completed.

In addition, this SMP is not designed to specify proper construction procedures such as shoring of unstable excavation sidewalls, installation of safety fence around open excavations, soil erosion and sediment control methods, or permitting. Industry standard construction methods and safety procedures should be implemented during future construction activities in the Penn Steel Area.

5.3.1 Pre-Characterization Sampling

If large volumes of soil are to be excavated or disturbed during construction or maintenance activities (e.g., utility or foundation replacement or repair), then pre-characterization soil sampling should be considered and evaluated by Kimberly-Clark's Environmental Department. The number of soil samples will be contingent upon the following:

- The volume of soil to be excavated;
- The linear length and volume of the trench/excavation to be installed;
- The location of the excavation/disturbance area relative to the former Penn Steel operations and areas of known or potential subsurface impacts;
- The potential for worker contact or exposure to the excavated soil;
- The requirements of the potential treatment, storage, or disposal (TSD) facility selected to accept potentially contaminated excavated soil; and,
- The prevailing regulations at the time of the work.

As presented in the Final Report, historical site data indicates the potential for residual concentrations of PAHs and metals in soils lying within the former Penn Steel operations footprint. However, the potential for other organic compounds (e.g., PCBs, pesticides) as well as the TSD sampling requirements (i.e., TCLP, BTEX, etc.) should be considered when selecting the target compounds for analyses of the pre-characterization soil samples. Kimberly-Clark should select the target parameters with consideration of the following:

- The location of the excavation/disturbance area relative to the former Penn Steel operations and areas of known or potential subsurface impacts;
- The potential for worker contact or exposure to the excavated soil;
- The requirements of the potential treatment, storage, or disposal (TSD) facility; and,
- The prevailing regulations at the time of the work.

Based on the pre-characterization laboratory results, Kimberly-Clark will be able to better evaluate reuse of the excavated soil as on-site backfill, the need for personnel protective equipment, or the possibility of off-site treatment or disposal.

5.3.2 Air Monitoring and Dust Suppression

In addition to the collection and laboratory analyses of pre-characterization samples to assess the potential for exposure of workers to residual contaminants, air monitoring for volatile organic compounds (VOCs) should be completed in the worker breathing space. A properly calibrated organic vapor meter should be used to screen the excavated soil and the worker breathing space (i.e., utility trench, excavation, etc.) to ensure that VOCs are not present. Air monitoring for combustible gases (e.g., methane) or oxygen deficiency that may occur as a result of the existing soil quality may also be considered if workers are to be entering confined spaces during the course of their work (i.e., trenches for piping, etc.). Special confined space entry procedures would need to be developed on a case by case basis.

In addition, dust suppression measures should be considered based on the site conditions (i.e., soil moisture content, wind speed and direction) in order to limit potential airborne particulate matter in the worker breathing zone, and to limit off-site dust migration.

5.3.3 Personnel Protective Equipment, Work Zones, and Worker Awareness

Personnel protective equipment (e.g., respirators, gloves, coveralls, etc.) should be selected, as appropriate, based on the results of the pre-characterization sample, air monitoring results, and/or the potential for worker exposure during soil excavation and handling activities.

During excavation or subsurface disturbance activities in the Penn Steel Area, a work zone should be established which limits the personnel that have access to the area and that could potentially be exposed to the disturbed soil or groundwater. Only personnel directly involved in the specific activity, should be allowed within the work zone. All

workers approved to enter the work zone should be notified of and properly trained to work around the potential hazards. In addition, the site management procedures should be reviewed with the workers at the beginning of the project.

5.3.4 Handling of Soil to be Reused As Backfill

The reuse of excavated soil as backfill is contingent upon the pre-characterization results, field observations of the soil quality, and the prevailing regulations regarding reuse of excavated soil. Soil deemed acceptable as backfill should be temporarily staged on plastic as near the excavation area as feasible to avoid unnecessary handling and disturbance of the soil. Care should be taken to cover/secure soil piles that will not be immediately returned to the excavation as backfill with plastic sheeting.

Under no circumstances should excavated soil piles remain uncovered or should uncontrolled runoff be allowed to migrate away from the soil piles. The soil-stone berms surrounding the perimeter of the site should be maintained to control stormwater runoff around soil piles. Kimberly-Clark should evaluate staging soil in lined roll-off boxes, if the soil will be staged above ground for extended periods of time prior to use as backfill.

5.3.5 Handling of Soil for Off-Site Treatment/Disposal

If possible, soil removed from the Penn Steel Area for off-site treatment/disposal should be transferred from the excavation equipment directly into the roll-off boxes or dump trucks to be used for off-site transport. Based on the pre-characterization results and TSD facility approvals, the soil should be properly transported in accordance with Department of Transportation (DOT) and environmental regulatory agency (e.g., USEPA, PADEP, etc.) manifest and/or bill-of-lading requirements. Loads of soil should be properly covered/tarped prior to off-site transport. The load out procedures should be coordinated in such a manner as to eliminate tracking of excavated soil off-site by the excavation equipment or transport vehicles. In turn, the excavation equipment should be properly decontaminated in the excavation area prior to load out.

5.3.6 Dewatering Activities

If during the course of maintenance or construction activities in the Penn Steel Area it becomes necessary to dewater an excavation, the water should be handled in accordance with prevailing regulations based on the characteristics of the groundwater. In particular, if residual separate-phase product globules are present, the groundwater should be transferred to Kimberly-Clark's on-site wastewater treatment facility (if acceptable) and treated in accordance with the discharge permit requirements or treated on site prior to discharge for re-infiltration in an upgradient portion of the site in accordance with prevailing regulations. Contingent upon the contaminants present, possible on-site treatment options may include oil/water separation and/or carbon filtration. Under no circumstances should groundwater be discharged or allowed to flow off-site or into the adjacent surface water bodies. State or local permits may be required for the discharge of large volumes of groundwater conveyed as part of a dewatering operation.

5.4 Restoration of Disturbed Areas

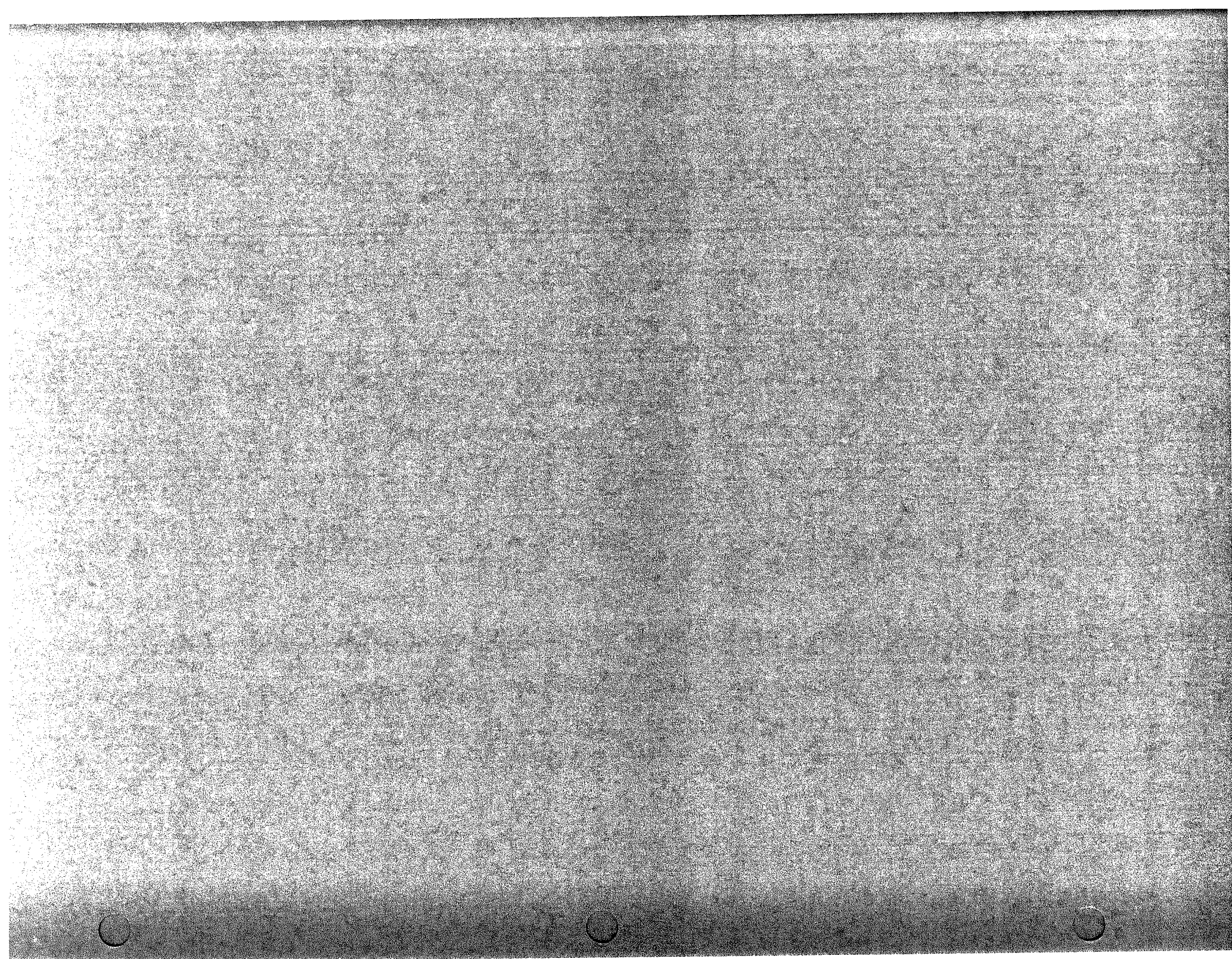
Upon completion of the maintenance or construction activities in the Penn Steel Area, the work area that has not been built upon should be backfilled, compacted (as appropriate), properly restored and capped to limit the potential for future exposure to the subsurface.

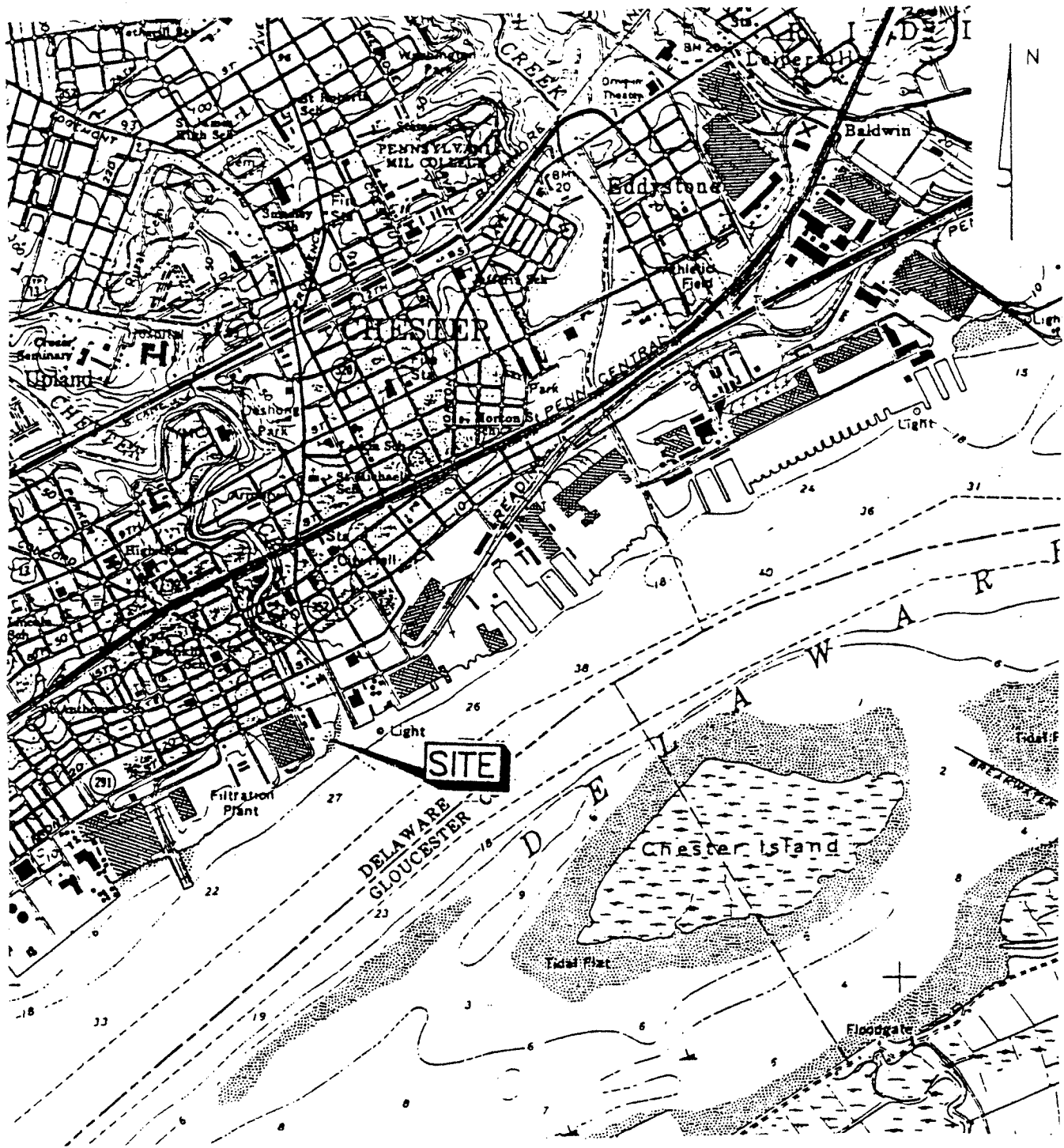
5.5 Recordkeeping

In order to document compliance with this SMP, Kimberly-Clark should keep a log book, as well as photographs, recording the results of its inspections, future soil or groundwater pre-characterization results, air monitoring information, personnel involved with the subsurface activities and their training and background, and other pertinent information associated with future subsurface activities in the Penn Steel Area. Maintaining this information in a central log book will assist in documenting the procedures that Kimberly-Clark has employed to eliminate the potential for exposure to the soil and/or groundwater in the Penn Steel Area.

5.6 Duration of Site Management Procedures

As detailed in the Final Report, the existing soil and groundwater data indicate that the Act 2 Non-Residential MSCs for soil and Used Aquifer MSCs have been attained in the select soil samples and POC monitoring wells, respectively. The asphalt parking lot cap has been in place for approximately 30 years in the former Penn Steel manufacturing area and, therefore, the direct exposure pathway to site soil has been eliminated. As such, additional soil sampling to demonstrate attainment of the Act 2 soil MSCs throughout the Penn Steel Area is not currently warranted. Rather, in accordance with this Site Management Plan, the subsurface conditions and potential for exposure to soil and groundwater containing exceedances of the Act 2 MSCs will continue to be evaluated on as-needed, area-specific basis. Contingent upon the ongoing upkeep and maintenance of the asphalt cap and the continued operation of the Penn Steel Area consistent with the existing use, the site management procedures detailed herein should remain in effect indefinitely.





BRIDGEPORT, NEW JERSEY
7.5 MINUTE QUADRANGLE
DELAWARE COUNTY, PA

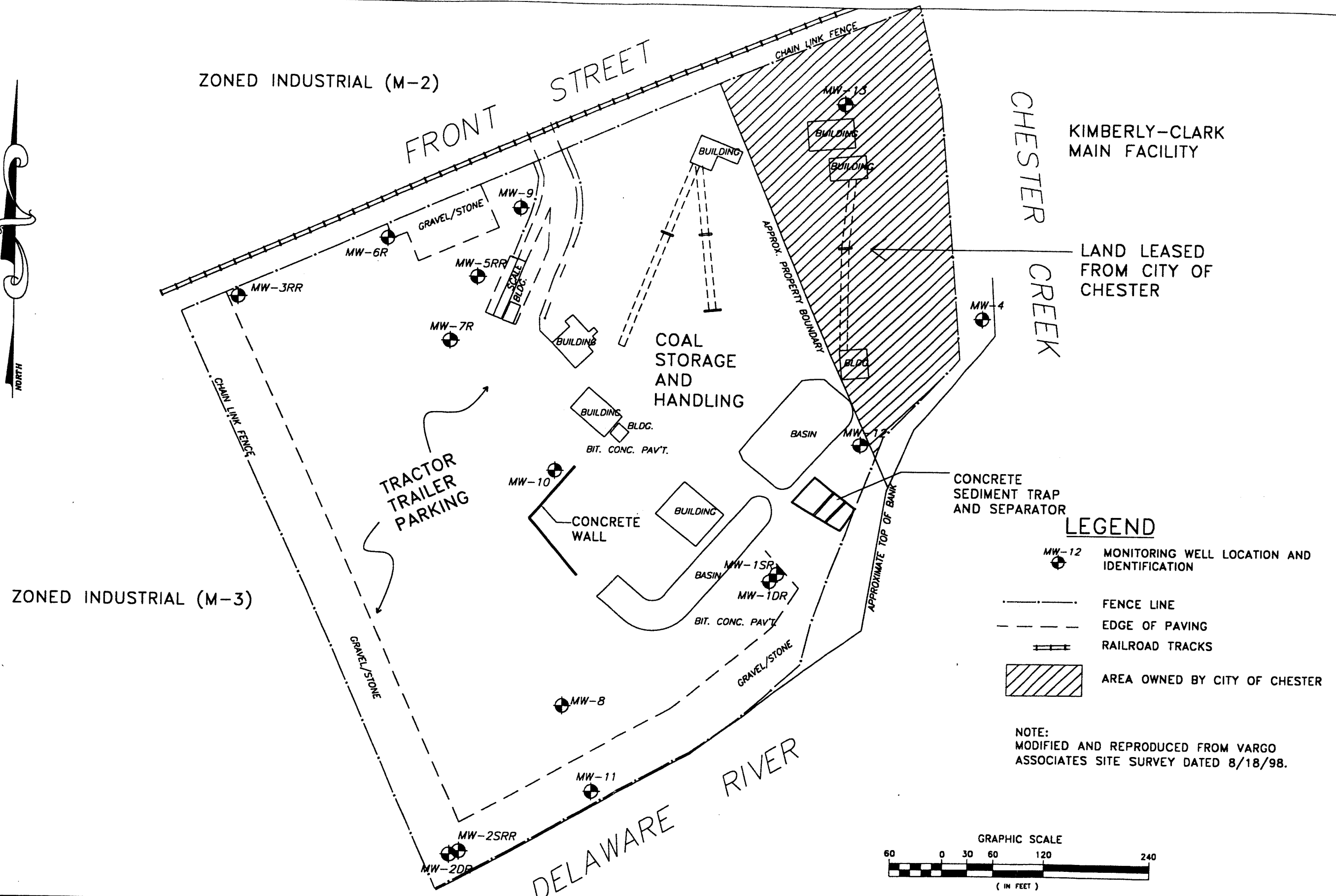
FIGURE 1
Site Location Map
Kimberly-Clark
Front & Avenue of the States
Chester, Pennsylvania

ATLANTIC
ENVIRONMENTAL CONSULTING
SERVICES, L.L.C.

SCALE 1:24,000

PROJECT NUMBER: P4024

REVIEWED BY: SCH DATE: 3/24/99



ATLANTIC
ENVIRONMENTAL CONSULTING
SERVICES, L.L.C.

KIMBERLEY-CLARK
CHESTER, PENNSYLVANIA

PENN STEEL AREA
SITE MAP

DESIGNED BY SC	DRAWN BY CC	DATE AUGUST 01	PROJECT NO. 10027.06	FILE NAME 2801\2
CHECKED BY TH	PROJECT MGR. SC	SCALE GRAPHIC	DRAWING NO. -	FIGURE 2